第三册｜系统、他者与共演化
Volume III | Systems, Others, and Co-Evolution
文章本天成，妙手偶得之。
The work is born of nature; the deft hand merely happens upon it.

本文为结构性模型呈现，不构成任何形式的指导或身份主张。 This text presents structural models and makes no claims of guidance or identity. 请基于内容本身判断其有效性。 Please evaluate it solely on the basis of its content.

------谢凯凡 kaifanxie

31｜他者作为系统
31 | Others as Systems
他者不是背景变量。
Others are not background variables.
他者是具备自主状态的系统。
Others are systems with autonomous states.

31.1 系统对系统
31.1 System-to-System
系统之间不存在直接控制。
There is no direct control between systems.
只有相互影响。
There is only mutual influence.
影响通过接口发生。
Influence occurs through interfaces.

31.2 他者不可简化
31.2 Irreducibility of Others
将他者简化为工具会产生误判。
Reducing others to tools causes misjudgement.
他者拥有独立价值函数。
Others possess independent value functions.

31.3 不可预测性
31.3 Unpredictability
他者的内部状态不可完全观测。
The internal states of others are not fully observable.
因此他者本质上不可预测。
Therefore, others are inherently unpredictable.

31.4 工程结论
31.4 Engineering Conclusion
与他者交互是多系统问题。
Interacting with others is a multi-system problem.
单系统优化必然失败。
Single-system optimisation inevitably fails.

32｜信任、博弈与稳定结构
32 | Trust, Games, and Stable Structures
信任不是情感。
Trust is not an emotion.
信任是对他者行为分布的假设。
Trust is an assumption about another's behaviour distribution.

32.1 博弈结构

32.1 Game Structures
博弈定义收益与损失。
Games define gains and losses.
结构比意图更重要。
Structure matters more than intention.

32.2 重复博弈
32.2 Repeated Games
重复交互改变最优策略。
Repeated interaction changes optimal strategies.
历史成为输入变量。
History becomes an input variable.

32.3 稳定合作
32.3 Stable Cooperation
合作在特定结构下稳定。
Cooperation is stable under specific structures.
惩罚机制是必要条件。
Punishment mechanisms are necessary conditions.

32.4 工程结论
32.4 Engineering Conclusion
信任是结构结果。
Trust is a structural outcome.
不是道德选择。
It is not a moral choice.

33 | 权力、制度与系统放大
33 | Power, Institutions, and System Amplification
制度是放大的系统。
Institutions are amplified systems.
权力来源于结构位置。
Power arises from structural position.

33.1 制度接口
33.1 Institutional Interfaces
制度通过规则交互。
Institutions interact through rules.
规则压缩复杂博弈。
Rules compress complex games.

33.2 权力积累
33.2 Power Accumulation
权力倾向于集中。
Power tends to concentrate.
集中改变可达空间。
Concentration alters reachable spaces.

33.3 制度惯性
33.3 Institutional Inertia
制度抗拒改变。
Institutions resist change.
抗拒来源于稳定收益。
Resistance arises from stable payoffs.

33.4 工程结论
33.4 Engineering Conclusion
制度设计决定长期演化。
Institutional design determines long-term evolution.
忽略结构必然失败。
Ignoring structure inevitably fails.

34 ｜ 共演化
34 | Co-Evolution
系统不会单独演化。
Systems do not evolve alone.
演化发生在系统网络中。
Evolution occurs within networks of systems.

34.1 相互塑形
34.1 Mutual Shaping
系统改变环境。
Systems change environments.
环境反过来改变系统。
Environments in turn change systems.

34.2 锁定与路径
34.2 Lock-in and Paths
共演化产生路径锁定。
Co-evolution produces path lock-in.
锁定限制未来可能性。
Lock-in constrains future possibilities.

34.3 断裂与跃迁
34.3 Rupture and Transition
共演化可能突然断裂。
Co-evolution may rupture suddenly.
跃迁重置系统关系。
Transitions reset system relations.

34.4 工程结论
34.4 Engineering Conclusion
共演化不可被单点控制。
Co-evolution cannot be controlled from a single point.
只能被结构性引导。
It can only be guided structurally.

35 ｜ 冲突、暴力与系统极限
35 | Conflict, Violence, and System Limits
冲突是结构性结果。
Conflict is a structural outcome.
暴力是系统失效的信号。
Violence is a signal of system failure.

35.1 冲突升级
35.1 Conflict Escalation
冲突升级源于反馈失控。
Escalation arises from feedback loss.
升级压缩选择空间。
Escalation compresses choice space.

35.2 暴力阈值
35.2 Violence Thresholds
当接口完全失效，暴力出现。
When interfaces completely fail, violence emerges.
暴力重置边界。
Violence resets boundaries.

35.3 工程结论
35.3 Engineering Conclusion
预防暴力需要接口冗余。
Preventing violence requires interface redundancy.
不是道德呼吁。
Not moral appeals.

36 ｜ 大系统、个体与错位感
36 | Large Systems, Individuals, and Mismatch
个体嵌入巨大系统。
Individuals are embedded in large systems.
错位感源于尺度不匹配。
Mismatch arises from scale disparity.

36.1 影响感缺失
36.1 Loss of Agency
在大系统中，个体影响被稀释。
In large systems, individual impact is diluted.
感知与实际脱节。
Perception decouples from reality.

36.2 责任漂移
36.2 Responsibility Drift
责任在大系统中扩散。
Responsibility diffuses in large systems.
扩散导致无人负责。
Diffusion leads to no one being responsible.

36.3 工程结论
36.3 Engineering Conclusion
需要中介结构。
Intermediate structures are required.
以重建尺度匹配。
To rebuild scale alignment.

37 ｜ 系统伦理的工程视角
37 | System Ethics from an Engineering Perspective
伦理不是情感判断。
Ethics is not emotional judgement.
伦理是系统约束设计。
Ethics is system constraint design.

37.1 伦理作为边界
37.1 Ethics as Boundary
伦理定义不可行区域。
Ethics defines infeasible regions.
不可行区域保护系统。
Infeasible regions protect systems.

37.2 后果导向
37.2 Consequence Orientation

伦理评估基于后果。

Ethical evaluation is consequence-based.

意图不等于结果。

Intention is not outcome.

37.3 工程结论
37.3 Engineering Conclusion

伦理是预防性设计。

Ethics is preventive design.

不是事后审判。

Not post-hoc judgement.

38 ｜ 系统视角下的文明
38 | Civilisation from a Systems Perspective

文明是超大规模系统。

Civilisation is a ultra-large-scale system.

文明通过制度维持。

Civilisation is maintained through institutions.

38.1 文明稳定
38.1 Civilisational Stability

文明稳定依赖能量与信息流。

Civilisational stability depends on energy and information flows.

中断会导致崩溃。

Interruption leads to collapse.

38.2 文明演化
38.2 Civilisational Evolution

文明演化并非线性。

Civilisational evolution is non-linear.

技术改变状态空间。

Technology alters state spaces.

38.3 工程结论
38.3 Engineering Conclusion

文明管理是系统工程。

Civilisation management is systems engineering.

39 ｜ 人类、AI 与协同系统
39 | Humans, AI, and Cooperative Systems

AI 是新型系统。

AI is a new type of system.

它改变协同结构。

It alters cooperative structures.

39.1 能力不对称
39.1 Capability Asymmetry

AI 与人类能力分布不同。

AI and humans have different capability distributions.

不对称引发结构重排。

Asymmetry triggers structural reconfiguration.

39.2 接口设计

39.2 Interface Design
协同成败取决于接口。
Cooperation success depends on interfaces.
坏接口放大风险。
Bad interfaces amplify risk.

39.3 工程结论
39.3 Engineering Conclusion
人机协同是系统设计问题。
Human–AI cooperation is a system design problem.
40｜终章：工程视角下的存在
40 | Final Chapter: Existence from an Engineering Perspective
存在不是意义问题。
Existence is not a meaning problem.
存在是系统持续运行。
Existence is continuous system operation.

40.1 存在的最小条件
40.1 Minimal Conditions of Existence
系统必须维持边界。
A system must maintain boundaries.
系统必须维持能量流。
A system must maintain energy flow.

40.2 工程终结语
40.2 Engineering Closing Statement
工程不是冷漠。
Engineering is not coldness.
工程是对复杂性的尊重。
Engineering is respect for complexity.
存在不需要被证明。
Existence does not need to be proven.
只需要被维持。
It only needs to be maintained.